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A.D. 1871, 22nd MAY. N° 1367.

Marquees, Tents, &c.

LETTERS PATENT to George Turner, of 72, Asylum Road, Peckham, in the Parish of Camberwell, in the County of Surrey, for the Invention of "IMPROVEMENTS IN THE ARRANGEMENT, CONSTRUCTION, AND FITTINGS OF MARQUEES AND TENTS FOR TEMPORARY HOSPITALS FOR MILITARY AND OTHER USES, AND FOR THE ENCAMPMENT OF TROOPS AND OTHER PURPOSES, AND IN CAMP EQUIPAGE USED THEREWITH FOR FIELD USE AND OTHER PURPOSES."

Sealed the 17th November 1871, and dated the 22nd May 1871.

PROVISIONAL SPECIFICATION left by the said George Turner at the Office of the Commissioners of Patents, with his Petition, on the 22nd May 1871.

I, GEORGE TURNER, of 72, Asylum Road, Peckham, in the Parish of Camberwell, in the County of Surrey, do hereby declare the nature of the Invention for "IMPROVEMENTS IN THE ARRANGEMENT, CONSTRUCTION, AND FITTINGS OF MARQUEES AND TENTS FOR TEMPORARY HOSPITALS FOR MILITARY AND OTHER USES, AND FOR THE ENCAMPMENT OF TROOPS AND OTHER PURPOSES, AND IN CAMP EQUIPAGE USED THEREWITH FOR FIELD USE AND OTHER PURPOSES," to be as follows:—

According to my Invention I arrange the marquee, tent, or temporary hospital by a combination of wire ropes and supports of metal or other suitable material of a tubular or other form as framing in such a manner

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as to admit of one or more marquees, tents, or other structures being readily attached or joined to a central marquee or tent, so as to form one structure, and the central marquee or tent by being the higher portion and fitted with ventilating arrangements at the apex will act as a ventilator to the whole combination, or a portion thereof, at the same time that each marquee, tent, wing, or other attached portion may be independently ventilated by apertures in the roof, to which ventilators are fitted, and the same arrangements may be used in a single marquee or tent. The wire rope or framework for supporting the canvas or other covering may be spliced or otherwise fitted to metal eyes, rings, flanges, or collars arranged to fit loosely over the metal or other supports, and the canvas or covering is attached to the wire framework in such a manner that the whole may be readily applied to the poles or other supports for erection without causing a strain to be thrown on the canvas or other covering, and allowing free play for the contraction and expansion of the same. The ends of the wire ropes or framework leading to the screw pegs or other suitable ground fastenings consist of pennants attached to the same by means of hooks or shackles or other convenient mode of fastening, or set up or tightened with lanyards or set screws, so as to admit of being readily adjusted as required.

To obviate the necessity of employing ridge poles as ordinarily used in marquees, tents, and structures of this kind I use a wire rope, and to enable the wire rope or framework forming the ridge of these marquees, tents, or other structures to be maintained at the proper degree of tension without the use of props, struts, or other supports between the ends of the same or from pole to pole or other supports, set screws, lanyards, or other convenient mode are employed to tighten it, or the plan described herein for supporting the covering of the hammocks may be employed for all parts requiring adjustment.

The ventilating arrangements may be those shewn in my former Patent, No. 823, granted to me in the year One thousand eight hundred and fifty-five, consisting of apertures formed round the poles or other supports fitted with sliding caps or other suitable coverings, the necks or tops of which are made to fit closely to the poles or other supports, and be moved or adjusted thereon by means of cords and pullies or other convenient arrangement. The covering of the ventilating apertures may be made of metal or other convenient materials as a framework covered with canvas or other suitable material, and constructed so as to be

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collapsible or to fold into a smaller compass for convenience of transport; or they may be made of a rigid metal or other framework glazed with plain or coloured glass or other transparent or semi-transparent material fixed therein in the ordinary manner; or the glass may be 5 bedded on india-rubber or other elastic material so as to avoid breakage by expansion, contraction, or vibration.

Another arrangement of the ventilating apparatus consists of moveable flaps, the frames being made of metal or other suitable material covered with canvas or other convenient fabric, or glazed in the same manner as 10 herein-before described, and fitted with self-acting or other convenient arrangement for opening, closing, or adjusting the same, these ventilators moving on a hinge or joint in a similar manner to the lid or cover of a hinged box or writing desk. Glazed windows, to open or shut if desired, formed of a metal or wooden frame, sash, or casement, and 15 arranged so that they attach to a wooden or metal frame screwed or otherwise fastened to the wire framework, and also to the canvas, may be employed, an opening being made in the canvas for the admission of light.

In order that the metal poles or supports employed as chimnies may 20 be rendered more portable they may be arranged so that they consist of two or more lengths supported on a tripod, each upper length being smaller in diameter than the length below it, one end being fitted with a solid ring or band to act as a bearing and prevent its entering too deeply into its supporting length, and when taken down for transport each length of smaller tube by being inverted stows into the larger one, and the ring or band again acts as a stop to prevent its sliding in 25 or other, thus reducing the total length to nearly one-half or one-third, the case may be. The tripods being removable stow in the inner tube thus enabling the lower length of tube to form a case or receptacle for the whole, and by means of caps or covers fitting on the ends the poles come in a convenient condition for transport. The tripods or 30 which support the tube or chimney are arranged so as to be retained in an upper position on the ground by means of points or projections which enter a hole in a plate or flattened ring placed at the base of each tripod, each plate or flattened ring being connected by a chain, bar, or other suitable attachment to a central ring, or 35 which are prevented from expanding or sinking into the

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ground, and thus form a substantial base or support for the whole. If preferred, the ends of the tripod or legs may have sockets formed in them, into which the projections, in this case formed on the plates or flattened rings, would fit.

When wooden floorings are used in marquees, tents, or other similar structures I arrange wooden poles made or fitted with points, spikes, or projections at both ends, so as to support the eaves of the same by one point, spike, or projection entering a metal eye or receptacle attached to the canvas or other covering where the wire rope or framework passes out through the same, the point, spike, or projection on the lower end of the poles passing through an eyebolt, loop, staple, or other convenient arrangement attached to the ends of the joists or edge of the flooring, or the poles may be stepped on the flooring, as most convenient, the poles serving to keep the wind from lifting the floor, and enabling the canvas or other material forming the sides of such structures to be properly supported and tightened, the same being attached or fastened to the floor so as to render unnecessary the use of pegs as ordinarily employed to pin it to the ground. The hood or bonnet which is placed over the stove or brasier to conduct the smoke into the chimney is made of a triangular or other convenient form fitted with a smoke-tight joint, and so as to be readily taken to pieces for transport. The stove or brasier which is placed under or in connection with the hood or bonnet and chimney is made collapsible, so as to be easily folded in a similar manner to the hood or bonnet herein-before described.

For cooking purposes I employ an oven formed of iron or other suitable material consisting of two parts or portions of a round, square, or other convenient form, one of which fits into the other so as to leave a space between the two which forms a casing of hot air to the inner part, the whole being covered with a lid arranged by means of two concentric flanges, one fitting inside the inner portion and the other outside the same to keep in the heat, the amount of which can be regulated by a valve placed in the lid. These parts or portions may be used separately if required for boiling or cooking in the ordinary manner. The stove or brasier in connection with the oven but used separately therefrom is of a circular, square, or other convenient form fitted in the bottom with a grating, or bars, or perforations, or all or any combined, for admitting air to the fuel and bars or perforations, or both combined, in the sides to facilitate the passage of the heat and to aid the combustion of the fuel.

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The cooking vessels are adapted by their form to fit against the sides of the stove or brasier so that when they are in their places they enclose it on all sides and thereby cause the heat generated by the fuel to be intercepted by them on its escape from the stove or brasier. A smaller cooking vessel which stows into the stove or brasier for transport is so arranged as to fit on the top of the same when used for cooking. The stove or brasier is so proportioned and arranged as to fit with its cooking vessels into the oven herein-before described so that it forms a case into which they may be packed for transport.

- 10 The hammocks or sleeping arrangements fitted to these marquees, tents, or other similar structures are so arranged as to be readily applied as ambulances or litters for the removal of sick or wounded persons from the field to the hospitals or ambulances or other desired position, or transporting them from one place to another, without requiring any
15 exertion on their part, by which means two men can easily carry two other sick or wounded persons at one and the same time.

The hammocks or cots may be fitted or suspended as described in my former Patent, No. 823, granted to me in the year One thousand eight hundred and fifty-five, and when used so as to be slung or suspended
20 from two short rods or staves of wood or other suitable material, and stayed by means of cords, chains, or wire ropes placed at an angle thereto, and extending from the ends thereof to the ground, it is necessary in order to obtain satisfactory results that the said cords, chains, or wire ropes should be attached to screw pegs driven into the
25 ground, as otherwise it is found that the hammock or cot will not keep in the required position. By this arrangement the hammock or cot can be set up outside the marquee or tent if desired or used as a convenient bed or lounge where the employment of the tent is not necessary. In
30 this case I arrange the supports of the hammock or cot in such a manner as to admit of a covering to keep off the sun or rain from the occupant being readily applied thereto, which covering I so form as to be easily adapted to be used as a garment or as a ground sheet when required, and I arrange the stays and supports which carry the coverings in such a
35 manner that the weight of the occupant of the hammock or cot causes them to maintain their required position and tighten the ridge line on which the covering is placed.

Where it is required that the canvas or other covering of the marquee, tent, or other similar structure, or that placed over the hammock or cot

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should be more waterproof than it is in its ordinary condition I employ a mixture consisting of paint, soft soap, and boiling water, with which I pay over the same.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said George Turner in the Great Seal Patent Office on the 22nd November 1871.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, GEORGE TURNER, of 72, Asylum Road, Peckham, in the County of Surrey, Gentleman, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Twenty-second day of April, in the year of our Lord One thousand eight hundred and seventy-one, in the thirty-fourth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said George Turner, Her special licence that I, the said George Turner, my executors, administrators, and assigns, or such others as I, the said George Turner, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "IMPROVEMENTS IN THE ARRANGEMENT, CONSTRUCTION, AND FITTINGS OF MARQUEES AND TENTS FOR TEMPORARY HOSPITALS FOR MILITARY AND OTHER USES, AND FOR THE ENCAMPMENT OF TROOPS AND OTHER PURPOSES, AND IN CAMP EQUIPAGE FOR FIELD USE THEREWITH, AND OTHER PURPOSES," upon the condition (amongst others) that I, the said George Turner, executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said George Turner, do hereby declare the nature of the said Invention, and in what manner the same is to be performed; to be particularly described and ascertained in and by the

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following statement thereof and accompanying Sheets of Drawing (that is to say):—

According to my Invention I arrange the marquee, tent, or temporary hospital by a combination of wire rope and supports of metal or other
5 suitable material of a tubular or other convenient form as framing in such a manner as to admit one or more marquees, tents, or other structures being readily attached or joined to a central marquee or tent so as to form one structure, and the central marquee or tent being the highest portion and fitted with ventilating arrangements at the apex
10 will act as a ventilator to the whole combination, or a portion thereof, at the same time that each marquee, tent, wing, or other attached portion may be independently ventilated by apertures in the roof to which ventilators are fitted, and the same arrangements may be used in a single marquee or tent. The wire rope or framework for supporting the
15 canvas or other covering may be spliced or otherwise fitted to metal eyes, rings, flanges, or collars arranged to fit loosely over the metal or other supports, and the canvas or covering is attached to the wire framework in such a manner that the whole may be readily applied to the poles or other supports for erection without causing a strain to
20 be thrown on the canvas or other covering and allowing free play for the contraction and expansion of the same. The ends of the wire ropes or framework leading to the screw pegs or other suitable ground fastenings consist of pennants attached to the same by means of hooks or shackles, or other convenient modes of fastening, or set up or
25 tightened with lanyards or set screws, so as to admit of being readily adjusted as required.

To obviate the necessity of employing ridge poles as ordinarily used in marquees, tents, and structures of this kind I use wire or other rope, and to enable the wire rope or frame forming the ridge of these
marquees, tents, or other structures to be maintained at the proper degree of tension without the use of props, struts, or other supports, set screws, lanyards, or other convenient modes are employed to tighten it, or the
plan described herein for supporting the covering to the hammocks may be employed for all parts requiring adjustment, or india-rubber
things may be used for the same purpose. The flexibility given to the structure by the use of wire or other ridge ropes, instead of the ridge
poles as ordinarily used, permits of the easy erection or striking of
marquees or other elongated structures in the most boisterous weather

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by the parts or portions between each pole and from pole to pole being erected or struck alternately, thereby avoiding the strain and difficulty experienced in pitching or striking the old style of marquee with wooden ridge poles which require the whole structure to be raised or lowered at one and the same time.

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The ventilating arrangements may be those shewn in my former Patent, No. 823, granted to me in the year 1855, consisting of apertures formed round the poles or other supports fitted with sliding caps or other suitable coverings, the necks or tops of which are made to fit closely to the poles or other supports, and be moved or adjusted thereon by means of cords and pulleys or other convenient arrangement. The covering of the ventilating apertures may be made of metal or other convenient materials, as a framework covered with canvas or other suitable materials and be constructed so as to be collapsible or to fold into a smaller compass for convenience of transport, or they may be made of a ridged metal or other framework glazed with plain or colored glass or other transparent or semi-transparent material fitted therein in the ordinary manner, or the glass may be bedded on india-rubber or other elastic material so as to avoid breakage by expansion, contraction, or vibration.

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Another arrangement of the ventilating apparatus consists of moveable flaps, the framework being made of metal or other suitable material covered with canvas or other convenient fabric, or glazed in the same manner as herein-before described, and fitted with self-acting or other convenient arrangement for opening, closing, or adjusting the same, these ventilators moving on a hinge or joint in a similar manner to the lid or cover of a hinged box or writing desk, and the joint or hinge may be formed of canvas, webbing, or other flexible material. Glazed windows to open and shut if desired formed of a metal or wooden framework, sash, or casement and arranged so that they attach to a wooden or metal frame secured or otherwise fastened to the wire framework, and also to the canvas may be employed, an opening being made in the canvas roof of a marquee, tent, or other structure for the admission of light, and when such windows are applied to the canvas side they may be attached to wooden battens extending from the wire framework of the roof to the ground, or wire rope may be applied in a similar manner and fastened by screw pegs or other similar fastenings, and the frame of the window attached thereto and the canvas also.

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In order that the metal poles or supports employed as chimneys may be rendered more portable they may be arranged so that they consist of two or more lengths supported on a tripod, each upper length being smaller in diameter than the length below it, one end being fitted with
 5 a solid ring or band to act as a bearing and prevent its entering too deeply into the supporting length, and when taken down for transport each smaller length of tube by being inverted stows into the larger one, and the ring or band again acts as a stop to prevent its sliding in altogether, or the tubes may be arranged telescopically, so that one
 10 length slides into its immediate lower length without inverting for stowage, and can be extended to their full length and fastened by stud bearings passing through a slot way in a collar or ring fitted inside the top of its next lower length, and then by a half twist brought to rest upon the collar or ring and securely fixed by entering another slot
 15 or notch on the top or outward part of the same, or by a bolt or pin passing through above the collar or ring, thus reducing the total length to nearly one-half or one-third, as the case may be. The tripods being removeable stow in the inner tube, thus enabling the lower length of tube to form a case or receptacle for the whole, and by means of caps or
 20 covers fitting on the ends of the same becomes in a convenient condition for transport.

The tripod or legs which support the tube or chimney are arranged so as to be retained in their proper position on the ground by means of points or projections on their ends which enter a hole in a plate
 25 or flattened ring placed under the end of each tripod, each plate or flattened ring being connected by a chain, bar, or other suitable attachment to a central ring, or by a connection extending directly from one leg to another, or from leg to leg, whereby they are prevented from expanding or sinking into the ground, and thus form a substantial
 30 base or support for the whole. If preferred, the lower ends of the tripod or legs may have sockets formed in them, into which the projections, in this case formed on the plates or flattened rings, would fix. The upper end of the tripod legs are fitted so as readily to enter solid bands or rings fitted to the lower part or end of the lower length of the tube or chimney, but it is not essential that three legs only be used to support the tube or chimney, as four or any other number made be used for the purpose.

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The stoves may be fitted to the tubes, chimneys, or supports of marquees, tents, or other structures, or any of them as mentioned in the above referred to Patent of the 13th day of April 1855, No. 823, but where portability is an object I employ, by preference, a folding or jointed stove or brazier with a hood or bonnet which is to be placed 5 over the same to conduct the smoke into the chimney, which may be made of a triangular or other convenient form fitted with a smoke-tight joint, so as to be readily removed and taken to pieces for transport, and with the stove pack completely into a case or valise.

For cooking purposes where a fire is not used in a tent or marquee, 10 or to supplement the same, I employ an oven formed of iron or other suitable material consisting of two parts or portions of a round, square, or other convenient form, one of which fits into the other so as to leave a space between the two, which forms a casing of hot air to the inner part, the whole being covered with a lid which may be arranged by 15 two concentric flanges one fitting inside the inner portion and the other outside the same, or vice versa, to keep in the heat, the amount of which can be regulated by a valve placed in the lid. The lid or cover may have an opening in the centre or other part, into which another lid may fit for the purpose of access to the inner cylinder without removing 20 the whole of the cover and thereby allowing the hot air to escape from the chamber. These cylinders or other shaped vessel may be used separately for boiling or cooking in the ordinary manner.

The stove or brazier in connection with the oven, but used separately therefrom, is of a circular, square, or other convenient form, fitted in 25 the bottom with a grating or bars or perforations, or all or any combined, for admitting air to the fuel, and bars or perforations or both can be used in the sides to facilitate the passage of the heat and to aid the combustion of the fuel. The cooking vessels are adapted by their form to fit against the sides of the stove or brazier, so that 30 when they are in their places they enclose it on all sides and thereby cause the heat generated by the fuel to be intercepted by them on its escape from the stove or brazier a similar cooking vessel which stows into the stove or brazier for transport is so arranged as to fit on the top of the same when used for cooking. The stove or brazier is so 35 proportioned and arranged as to fit with its cooking vessels into the oven herein-before described, so that it forms a case into which they may be packed for transport.

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The hammocks or sleeping arrangements fitted to these marquees, tents, or other similar structures are so arranged as to be readily applied as ambulances or litters for the removal of sick or wounded persons from the field to the hospitals or ambulances or other desired position, or transporting them from one place to another without requiring any exertion on their part, by which means two men can easily carry or remove one or more sick or wounded persons from the field or from one place to another at one or the same time by means of belts, bands, or saddle-bearers fitted to their shoulders or otherwise, and wounded men may thus be more easily collected or removed from hilly ground or ravines than by the old system of hand barrow ambulance or bearers, and when necessary from great distances from the hospital, ambulance, or other suitable place for conveying them to a light hand carriage with springs on two or more wheels may be used for carrying or affixing the hammocks to, so that the sick or wounded men may be easily carried or removed long distances after collection from the field or other place by hand, such vehicle being of light construction adapted for broken ground and made to take in pieces and pack in a case for convenience of transport. The vehicle may also be provided with seats for such of the sick or wounded as may be able after collection or removal or otherwise to dispense with the hammock as a bearer or litter. The vehicle employed by preference should be fitted with proper attachments with springs for affixing the hammocks, and have an adjusting balance weight under the axle that they may be always kept horizontal when the seats are only partially occupied, and that a canvas or other screen be easily affixed over the whole to keep off the heat of sun or rain.

The hammocks or cots may be fitted or suspended as described in my former Patent, No. 823, granted to me in the year 1855, but when used with a rod and suspended between the wire stays and the poles or other support the connection or bearers at the wire rope is or are spliced into the same upwards and downwards and with a seizing at the lower part for greater security, so as to form an eye into which a metal thimble or eyelet is placed or secured and a link or chain passing through the thimble or eyelet and wire eye, so as to form a means for hooking on the outer ends of such rod, and by means of which free play is given to the same and damage to the wire rope prevented by vibration. But when used so as to be slung or suspended between two short rods, struts,

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or staves of wood or other suitable material and stayed by means of cords, chains, or wire ropes placed at an angle thereto and extending from the top end thereof to the ground, it is necessary in order to obtain satisfactory results that the said cords, chains, or wire ropes should be attached to screw pegs screwed into the ground, or where the ground 5 is too hard and rocky to iron driving pegs fitted with barbed points, or otherwise it is found that the hammock or cot will not keep in the required position. By this arrangement the hammock or cot can be set up outside the marquee or tent, if desired, or used as a convenient bed or lounge when the employment of a marquee or tent is not necessary. 10 In this case I arrange the supports of the hammock or cot in such a manner as to admit of a covering to keep off the sun or rain from the occupant being readily applied thereto, which covering I so form as to be easily adapted to be used as a garment or as a ground sheet, and when required I arrange the stays and support which carry the covering 15 in such a manner that the weight of the occupant of the hammock or cot causes them to maintain their required position and tighten the ridge line on which the covering is placed.

The screw pegs I use and prefer are of an improved construction to that shewn in the Drawing of the Patent, No. 823, granted to me in 20 1855, having the worm or screw part of the iron flattened out or worked to an edge, so as more readily to enter the ground and have a firmer bearing therein, as it does not tear or loosen its hold. The shank is strengthened also at the commencement of the screw where the greatest strain has to be borne, and the pitch and form of the screw is a great 25 improvement on the one shewn in the aforesaid Drawing of the Patent granted me in 1855. These screw pegs may also be used for picketing or tethering horses or cattle in the field, and will be found a great improvement on the ordinary picket posts and lines. A horse or beast may be securely fastened by a halter or other convenient fastening to 30 one screw peg, or when a number of horses or cattle have to be secured in the same field or spot the pegs may be screwed down in rows, and a wire rope or other suitable cord, chain, or rod rove through the eyes, and set up or tightened with set screws or other suitable means, and the horses or cattle secured to such wire rope or other suitable rope, chain, 35 or rod, and by this means they may be ranged in tiers or rows, one row behind each other, and fastened both by the head and hind leg to prevent them coming in contact and injuring one another. The screw

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peg as described will be found useful for securing boats, barges, or other vessels temporarily to a quay or bank of a canal or river or dock when it may not be convenient to use anchors, and bollards or posts are not provided on such quay side or bank for the purpose. The screw peg as
5 described will enter any soil except rocky hard strata, and in light friable soils where hold cannot be obtained on the surface they can be screwed down easily until a firm grip is obtained.

For rocky or other hard soil where the screw will not enter I use an improved driving peg to the one shewn in the Drawing of the Patent
10 granted me in 1855, having a steel barbed point with a solid eye worked on the side of the upper end of the shank, and a loose ring or link welded therein, by which means compression of the eye when driving the peg down is avoided, and greater durability and convenience in use obtained.

15 When wooden floorings are used in marquees, tents, or other similar structures, I arrange wooden poles made or fitted with points, spikes, or projections entering a metal eye or receptacle attached to the canvas roof or other covering where the wire rope or stay of the framework passes out through the same, the point, spike, or projection in the lower
20 end of the pole passing through an eye bolt, loop, or staple, or other convenient arrangement attached to the ends of the joints or edge of the flooring; or the poles may be stepped in the flooring as most convenient, the poles serving to keep the wind from lifting the floor, and enabling the canvas or other material forming the sides of such structure to be
25 properly supported and tightened, the sides being attached or fastened to the floor so as to render unnecessary the use of pegs as ordinarily employed to pin it to the ground. When it is required that the canvas or other covering of the marquee, tent, or other similar structure, or that placed over the hammock or cot, or cloths for covering horses, or
30 for such purposes where a waterproof cover is required or the material should be more waterproof than it is in the ordinary condition, I employ a mixture consisting of paint, soft soap, and boiling water in proper proportions with which to pay over the same, such as one pound of
35 soft soap, one gallon of boiling water, three pounds of mixed paint, and when dry one or two coats of paint only may be given as desired.

Having thus stated the nature of my said Invention I will proceed to describe more fully, by the aid of the accompanying Sheet of Drawings

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and letters of reference, the manner in which the same is to or may be performed or brought into practical use.

DESCRIPTION OF THE DRAWINGS.

Figure 1, Sheet 1, represents a large circular tent *a* with six diverging wings or marquees *b, b, b, b, b, b*, fitted thereto; Figure 2 is a larger view of one of the wings or marquees *b* of Figure 1 shewing more clearly the connection with the circular tent *a* and also of other structures of less height of walls and roof *c* for offices, lavatories, connected by the covered way *d*; Figure 3 shews a diminished plan of Figure 1, having only two wings or marquees *b, b*, with lavatories or offices *c, c*, connected with each and having Λ pieces *d* fitted into the central tent *a* removeable for the insertion of other wings or marquees when desirable or necessary. In this manner the large central tent can be used without any or with all or a less number of the wings in connection therewith as may be required. It is not essential that the central tent *a* be fitted with or 4 for six marquees or wings, as it may be designed for a greater or lesser number, neither is it essential that a central tent be used at all, as a number of marquees without a central tent may by the system of framework be readily and securely connected and diverge from a central point or at right angles with each other.

Figures 1, 2, and 3 are all shewn fitted with glazed ventilators *e* and with windows, also glazed, *f* in the roof. The junctions of the wings or marquees *b* with the central tent *a* is made by continuing the wire ridge stays of the wings or marquees to the central pole or tube of the tent, where they are set up to eyes or a collar fitted round the same, and the canvass or other material of the roofing is joined by means of latches, lacings, or other suitable means with a flap or fly of canvas or other material waterproofed fitted or fastened underneath to form a gutter way to carry off any water or moisture that might penetrate.

Figure 4 is an internal view of the end of one of the wings or marquees shewing a chimney *a* with stove *b* and a pole *c* as supports to the roof and with windows *d, d, d, d*, also with entrance *e*.

Figures 5 and 6 is a side elevation and plan of metal framed ventilators glazed; *a*, the metal bars; *b*, metal cap and neck; *c*, metal lower rim; *d*, glass; Figure 7 is a section of bar of the same shewing the manner of fitting the glass; *a*, metal top bar screwed down on to *b*, india-rubber

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setting which presses on *c*, the glass, and keeps the joints tight and prevents the glass breaking through vibration.

Figure 8, metal framed window or sash with glass *a*.

Figure 9, wood frame placed under the canvas and the arms *a, a, a, a*, 5 of which are supported by and secured to the wire stays of the roof, and to which the metal frame or sash, Figure 8, is screwed or fastened, having a seating of india-rubber or other suitable material between them, the canvas of the roof at the aperture or opening for the window being pressed and secured between the india-rubber and the wood frame to 10 keep out wet.

Figure 10 is a section of metal sash. *a*, the under part or bar; *b*, thickness piece of metal secured to same to form rebate for glass; *c*, india-rubber seating on which the top bar *d* is secured by the screw *e*; *g*, the glass fitting rebate with a thin slip of india-rubber or other 15 material underneath to prevent contact with the lower metal bar.

Figure 11 is a frame for collapsible ventilator to be covered with canvas or other suitable material for marquees. *a*, lower rim and stays folded flat; *b*, plan of top cap shewing neck hole to go over tube or pole and slot ways for stays; *c*, side elevation of ventilator when put together; 20 *a*, the stays which with hook enter the slot ways in the cap *b* and the covering *c*, the back frame jointed at *d* to the lower rim *e*, having a stay *f* with a hook point which passes through the back of cap to expand the ridge.

Figure 12, the frame for a circular collapsible ventilator of similar 25 construction as Figure 11 but having no back piece or ridge.

Figure 13 is a side view of flap ventilator, the dotted lines shewing ventilating opening in the roof *a*. Figure 14 is a transverse sectional elevation of same shewing manner of fitting the lines and springs. *a*, flap open; *b*, flap shut; *c, c*, lines working over pulleys through 30 knob *d* for raising the flaps; *e, e*, springs for closing same.

Figure 15 is a plan of ventilator shewing metal cap *a* to which the ridge joint is secured.

Figure 16 is a frame of one flap for covering with canvas or to be constructed and arranged like base of Figure 10 for glazing.

35 Figure 17 is a screw peg. *a*, shank with solid eye; *b*, worm or screw with iron flattened out; *c*, plan of screw; *d*, section of iron at line *e*; *f*; *g*, section of iron at line *h, i*, which may be varied in level or constructed

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with the bevil the opposite way or bevilled both ways from centre of rod or bar of worm.

Figures 18 and 19 are front and side views of steel barbed driving peg shewing solid eye *a, a*, on side through which the ring *b, b*, is fitted.

Figure 1, Sheet 2, shews a hammock *d* supported by two struts *a, a*, 5 retained in their position by wire rope or other stays *b, b*, attached to the screw pegs at *c, c*, and passing to the bottom ends of the strut *a, a*, *e* represents the ridge line extending from strut to strut, and to the screw pegs on which the covering *c* is placed. The ridge line *e* passes over a sheave or pulley at the top of one or both ends of the strut *a, a*, 10 down to the screw peg and through another sheave or pulley attached to the same, and returns up and is attached or fastened to the top ends of the stands *a, a*. For the convenience of carriage and to keep the strut *a, a*, within a convenient length the portions over which the ridge rope passes may be made to slide up or down on or in the strut *a, a*, so 15 as to be easily adjusted to any required height, and retained in its desired position by a set screw or other convenient means.

Figure 2 shews the covering as strained tight by means of a stave rod or bar at each end, and attached to the heads of the struts *a, a*, in a similar manner to a boat's awning. 20

Figure 3 shews the arrangement with a cot *d*, the cover *c* being suspended on a ridge line *e*.

Figure 4 represents the ground sheet used also as a covering and as a garment or overcoat, shewing the manner in which it is arranged to admit of its being employed as the latter. A piece of suitable material 25 of the required dimensions has two cuts made on each side *a, a, a, a*, which may be either parallel to each other, or may taper from the edge to the centre, being wider at the latter, and extend a sufficient depth from the edge towards the centre to enable them when the edges are brought together to form sleeves or covers for the arms of such length as 30 may be required. *b* is an orifice or opening to from the neck and allow the head to pass through, and to which a piece of material is attached or sewn to form a collar; *c* is the opening like the front of a shirt, which can be closed by buttons or otherwise when desired; *d* is the portion coming in the front of the wearer, on which a fly or lap piece is sewn or 35 fitted; *e* is the back piece provided with a belt which draws both the front and the back portions close to the body of the wearer when fastened round him. Draw strings are provided on the inside next the

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body of the wearer, as shewn by the dotted lines, to adjust the width comfortably to the same; and when worn the front *d* forms a perfect covering to the legs, and is fastened at the back, the laps of the back piece *e* coming round over it and secured in front under the fly or lap 5 piece. *f* is the hood, which may form a portion of the collar, or be arranged so as to attach to or be detached therefrom as desired; *g, g*, are two pieces of material attached to the portions forming a cuff to the sleeve. The two portions formed by the cuts *a, a, a, a*, and which act as sleeves, may be fitted with flies, lap pieces, gussets, or other suitable 10 means for preventing the water or damp passing through the cuts *a, a, a, a*, of the sleeves when they are opened out, so as to admit of the whole being employed as a ground sheet or covering.

Figure 5 represents a side elevation, and Figure 6 a plan of a light carriage used for supporting the hammocks when used for removing the 15 sick or wounded. *a, a*, are the seats for those not sufficiently ill or injured to require transporting in the hammock; *b, b*, are the hammocks suspended to two rods *e, e*, fitted to the axletree *g, g*; *d, d*, are the stays for supporting and keeping the hammock steady; *c, c, c*, are the wheels; and *f* is the support or standard for preventing the dropping of the 20 hinder end of the machine when the carriage is stationary.

Figure 7 shews the ground sheet in use as a garment or overcoat.

Figure 8 represents the hammock as used for removing the sick or wounded, supported by the belts *b, b*, passing over the shoulders of the men carrying the same.

25 Figure 9 represents a cot suspended by cross struts at one end, and provided with a covering similar to that at Figure 2.

Figure 1, Sheet 3, is a side elevation of the hood or bonnet to the stove or brazier, *a* being the neck or portion which enters the chimney.

30 Figure 2 represents a plan of the interior, the neck or chimney orifice being inverted.

Figure 3 is an edge view of the bottom band of the hood, *a* being the groove, and *b* the projecting portion fitting into a corresponding groove on the other portions when the same is fitted together.

35 Figure 4 is a front elevation of the hood or bonnet, *a* being the neck or portion which enters the chimney, and *b* the door for feeding the stove or brazier.

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Figure 5 represents the stove or brazier opened out ready to be put together. *a*, being the front; *b*, the perforated bottom; *c, c*, the two sides; *d* the back; *e, e, e, e*, the ring, hinges, or joints, on which the different parts turn; *f*, the pin or bolt which passes through the loops or eyes *g, g*, and keeps the whole together ready for use; *h, h, h*, are the three legs fitting into the sockets *j, j, j*, and which serve to support the brazier while in use.

Figure 6 shews the stove or brazier put together ready for use, similar parts being indicated by similar letters of reference as in Figure 5.

Figure 7 is a plan of Figure 6, similar parts being indicated by similar letters.

Figure 8 is an enlarged view of the ring joint or hinge *e, e*, Figures 5 and 6.

Figure 9 is an elevation of the stove, brazier, and tubular support used as a chimney as fitted in place, *a* being the brazier; *b*, the hood; *c, c*, two of the legs of the tripod or support; *d, d, d*, the tubular support; *e*, Figure 10, being a section through the line *g, h*, and Figure 11; *f*, being a section through the line *j, k*, shewing the manner in which the legs of the tripod or supports are fitted together.

Figure 12 shews the tubular support *b, d*, containing the legs of the tripod or support packed therein with the end covers *e, e*, as packed for transport.

Figure 13 is a vertical section through the centre line of the oven, *a* being the exterior case thereof; *b*, the interior; *c, c, c*, being a space for the heated air between them, and *d* the valve for regulating the heat. Figure 14 is a plan of the same with the cover removed.

Figure 15, a plan with the cover on shewing the valve *d*.

Figure 16, a sectional elevation through the centre line of the oven and cooking apparatus packed for transport. Figure 17, a plan of the same with the cover removed.

Figure 18 shews the circular stove or brazier *a* with the cooking utensils *b¹, b², c*, in use, the saucepan fitting on the front being removed to shew the front of the stove or brazier. Figure 19 is a plan of the same with the cooking vessel *c* removed.

Having thus described the nature of my said Invention, and the manner in which the same is to or may be performed or carried into

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practical use, I would remark in conclusion that I do not limit or confine myself to the precise details of the parts herein described and illustrated in the accompanying Sheets of Drawings, as the same may be varied or modified without departing from the nature and object of my Invention, nor do I claim as new the use of wire framework or rope in the construction of marquees, tents, or similar structures, nor the use of screw pegs for fastening the same, nor do I claim the use of metal tubular supports or the use of stoves or braziers in connection therewith, nor sliding ventilating caps to close the apertures, or providing the sleeping arrangements with hammocks or cots; but what I do claim as new and as my Invention, and desire to have secured to me by Letters Patent are,—

First. The mode of arranging marquees, tents, and other similar structures so that they may be readily increased in size by the addition of other marquees, tents, or portions connected thereto and as readily removed so as to reduce the size, substantially as herein described and specified.

Second. The use of glazed windows and glazed and folding ventilators, also the ventilating flaps, glazed or otherwise, when applied to marquees, tents, or other similar structures, and the mode of arranging and fitting the same as herein described and illustrated and for the purposes specified.

Third. The arrangement of the tubular poles or supports whereby they are rendered more portable, the manner of fitting and arranging the tripods or supports of the tubular poles or supports to fit thereon, and the modes of arranging the lower ends of the same to secure steadiness, also the employment of ridge ropes without struts or intermediate supports, and the manner of arranging the same to admit of being readily set up, and the use, form, and arrangement of the screw, peg, and barbed hook as herein illustrated and described and for the purposes specified.

Fourth. The arrangement and mode of fitting hammocks and cots so as to admit of their being readily suspended or set up within marquees or without the same, and also with, being fitted with a covering when used without a marquee or tent, and for the removal of sick or wounded persons substantially as herein illustrated, described, and

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Fifth. The arrangement and use of poles or other suitable supports when wooden floorings are used in marquees or tents, substantially as herein described and for the purposes described and specified.

Sixth. The arrangement of the cooking apparatus, stove, or brazier and the various parts and apparatus connected therewith, substantially as herein described and illustrated and for the purposes specified. 5

Seventh. The manner of arranging and forming any suitable material so as to enable it to be used as a ground sheet or covering for any suitable purpose and as a garment or overcoat either waterproofed or otherwise, substantially as herein illustrated, described, and specified. 10

Eighth: The combination of all or any of the various parts herein illustrated and described for the purposes described and specified.

In witness whereof, I, the said George Turner, have hereunto set my hand and seal, this Twenty-second day of November, in the year of our Lord One thousand eight hundred and seventy-one. 15

GEO. TURNER. (L.S.)

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